Project 6 – Mississippi River Levee Pump Installation:

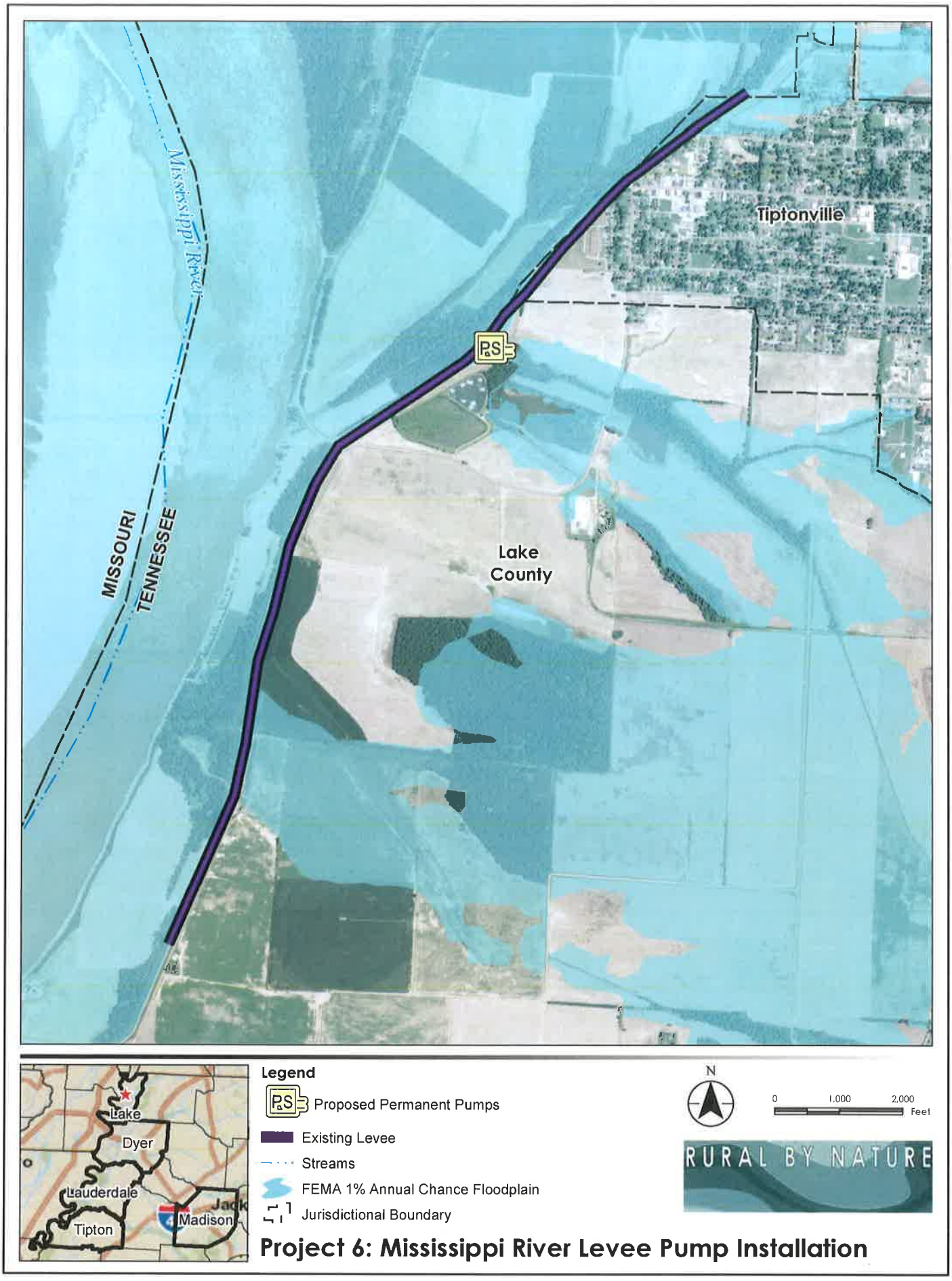
The mainline Mississippi River Levee protects Lake County from flooding during major flood events such as the 2011 Mississippi River flood. However, rainfall that accumulates on the "land side" of the levee creates flooding in Tiptonville and on agricultural properties in Lake County. The rural economy of Lake County is principally based on agriculture. During Mississippi River flood events as many as 21 low- to moderate-income homes are subjected to flooding. Portable pumps are utilized, but they do not have the capacity to adequately protect the homes and agricultural lands.

The proposed project involves planning, design and construction of a permanent stormwater pump station on the landside of the mainline Mississippi River levee southwest of Tiptonville. Multiple large pumps, three phase electricity and ancillary enclosure facilities would be installed as part of the proposed improvements. The permanent pump station would be sized to reduce the frequency of flooding of Tiptonville homes and agricultural lands. A total pumping capacity in excess of 200 cubic feet per second is anticipated.

Implementation of this project would serve to provide needed risk reduction to the residents living within the flood prone area. The current plan is dependent on the availability and logistics of transporting portable pumps to the interior ponding area and the function of these during the flood event. The permanent pump station would provide a resilient mechanism to evacuate interior runoff and reduce the risk of flooding in adjacent areas. In addition, the portable pumps are operated by diesel fuel, which is subject to spills and contamination of the environment. A permanent pump station would operate on electricity and reduce the potential environmental impacts.

Evaluation Metrics: Resiliency Value

Project success will be evaluated during Mississippi River floods by Lake County, the Lake County Levee Board and the US Army Corps of Engineers (USACE). Success will be measured by evaluating the reduction in flooding of 21 homes and agricultural lands.


Mississippi River
MISSOURI
TENNESSEE
Tiptonville
PS
Lake
County
AR
Lake
Dyer
Lauderdale
Tipton
Madison
Legend
PS Proposed Permanent Pumps
Existing Levee
Streams
FEMA 1% Annual Chance Floodplain
Jurisdictional Boundary
N
0
1,000
2,000
Feet
RURAL BY NATURE
Project 6: Mississippi River Levee Pump Installation